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WEST VIRGINIA UNIVERSITY
LAND-GRANT COLLEGE RADIO PROGRAM

National Farm and Home Hour
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June 15, 1938

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NBC ANNOUNCER (Chicago): The National Farm and Home Hour!

HOMESTEADERS: (Segue) "Hail, West Virginia" by McWhorter. (Fade under - -)

NBC ANNOUNCER (Chicago): "Hail, West Virginia" - - - played by Walter Blaufus and the Homesteaders as a salute to West Virginia University - - which today is presenting another of the monthly programs in the Land Grant College series - - - programs built around the services the Land Grant institutions are contributing in helping the people of their States meet changing conditions.

HOMESTEADERS: (Up and Out)

NBC ANNOUNCER (Chicago): Now, before we take off for the campus of West Virginia University at Morgantown, the Homesteaders _____

HOMESTEADERS: (5 minutes) - - Fade for -

NBC ANNOUNCER (Chicago): We now take you to Morgantown, West Virginia.

HOMESTEADERS: (Up and Out)

NBC ANNOUNCER (Morgantown): Here we are at Morgantown - - - in Commencement Hall on the campus of West Virginia University.

Since coming to Morgantown I've heard so much about West Virginia that I could talk for an hour about it myself - - - just mentioning the superlative things to be found in the State. For instance:

West Virginia is the original home of the Grimes Golden and Golden Delicious apples.

It has an area suited to the production of bluegrass as great as that of any State in the nation.

The Kanawha Valley is recognized as the chemical center of the United States.

The reserve coal supply of the State is sufficient to meet the industrial needs of the nation at the present rate of use for 250 years.

Within West Virginia are many of the largest manufacturing plants to be found in the world.

I might go on listing the outstanding things about West Virginia - - - but, what has all this to do with the work of a Land Grant institution? For the answer to that question let's join a group of faculty members of West Virginia University, who are meeting here in Commencement Hall to explain to you - - - and to Wallace Kadderly of the United States Department of Agriculture - - - some of the things this University is doing to help the people of this State meet changing conditions.

Chairman of the group is Dr. C. R. Orton, dean of the College of Agriculture and director of the Agricultural Experiment Station. Dr. Orton is calling the meeting to order.

ORTON: Mr. Kadderly, we're glad to have this opportunity to talk to you and to the folks who are listening to us from coast to coast. Just to get the ball rolling, Grace Martin-Snee of our School of Music will play a selection on the organ.

ORGAN: "Canzonette," by Scammell (2 minutes)

ORTON: Thank you, Mrs. Snee.

That number, "Canzonette," by Scammell, gives us a splendid start.

Now, Mr. Kadderly, as you see there are a dozen or more faculty members here. They represent the College of Engineering, with its experiment station and extension service; and the College of Agriculture with its experiment station and extension service. Our School of Music is represented, too. In addition we have some distinguished visitors.

Why don't you bring up questions on things in which you are interested - - - and we'll call on the proper person for the answer?

KADDERLY: Sounds logical. Well - - - I'm especially interested in learning about the ways in which this institution has served the people of the State.

In other words, how you are discharging the responsibilities set up by the Morrill Land-Grant Act passed by Congress in June, 1862.

Now, so that we may understand better how this is being done, won't you give us a bird's-eye picture of the State - - - its resources; physical, economic, and social conditions?

ORTON: That's a pretty big order, but you remember the relief map you saw in Director Knapp's office - -

KADDERLY: Indeed, I do - - - and I wouldn't have believed - - - without seeing that map - - - that an entire State could be so nearly 100 percent mountainous. It's easy to understand why West Virginia is called the Mountain State.

ORTON: Yes, it came by that term honestly! Most of West Virginia is "on end" - - - about 85 percent of the area has slopes ranging from 12 to 40 percent and steeper; in fact, almost a third of the State has slopes greater than 40 percent.

KADDERLY: That explains why you have so much grass land. You must have grass to keep the soil in place.

ORTON: That's right - - - and, other than timber, grass is our most important crop. West Virginia has about twice as much land in non-woodland pasture as in cultivated crop land. So you can see that grazing of livestock is naturally an important part of our agriculture. In fact, only a small part of our land is suitable for tillage, and only about 1½ percent of it can be considered as superior crop land, and less than 4 percent in all as good crop land.

KADDERLY: Must be difficult for your farm people to get an adequate income under those conditions, isn't it, Dr. Orton?

ORTON: Indeed, it is. - - - And that's one of our problems - - - to help them find ways and means of earning enough to provide a reasonable standard of living.

KADDERLY: What are some of the ways in which the institution has helped them to obtain larger incomes?

ORTON: That's a long story, and I'm going to ask the other folks here to answer that question. But first, the Mountaineers Male Quartet will harmonize a bit for us.

KADDERLY: Good idea.

ORTON: You've met these people, but we want the radio audience to meet them, too. William Steeber, first tenor; Dwight Fast, second tenor; Bernard McGregor, baritone; Charles Kindt, bass; Virginia McWhorter, accompanist. - - - All right, boys, roll those "Wagon Wheels."

QUARTET: "Wagon Wheels" (1 min. 45 sec.)

ORTON: Thank you, boys.

Now, Mr. Kadderly, we'll go on with the story. Many farm families in West Virginia have to supplement their income from sources other than the farm. They work in the mines, on the roads, in industries, cutting timber, and so on.

KADDERLY: Mining is of considerable importance in West Virginia, isn't it?

ORTON: Very important. Dr. R. P. Davis, our dean of engineering, should be able to tell us about that. How about it, Dr. Davis?

DAVIS: Well, on the human side, a third of our people in West Virginia depend on coal for a livelihood.

KADDERLY: And, I suppose, industrial employment boosts the figure considerably higher, doesn't it?

DAVIS: Yes. About 70 percent of our working population is engaged in industrial or business occupations.

KADDERLY: How do the various industries compare?

DAVIS: Well, on the mining side, we produce about $158,000,000 worth of coal - - - and about $68,000,000 worth of oil and gas a year.

KADDERLY: And on the industrial side - - -

DAVIS: About $75,000,000 worth of steel and iron; $55,000,000 worth of glass, pottery, and other ceramic products; and $37,000,000 worth of chemicals. That adds up to about $400,000,000 a year from the main mining and manufacturing activities.

KADDERLY: I can see that you engineers are faced with a real challenge, Dr. Davis.

DAVIS: Yes we are. Our work is geared closely to the State's activities in business and industry. As I said, West Virginia makes a great deal of glass, pottery, and tiling. During the last ten years there has been a rapid growth of industries making chemicals from coal and limestone. More than 150 different chemicals are now made in the Kanawha Valley. Our course in chemical engineering is designed to meet the needs of these old and new industries.

In civil engineering, we emphasize highway construction, because the problems of building roads in a mountainous State such as ours are many and varied. We need a great many bridges, too, because of our rivers and streams. As one example of our work in bridge construction, we have developed the use of lighter-weight flooring materials for bridges - - - so the dead weight of bridge floors has been cut to half of what it was in old-type construction; this means that the road commission can still use old bridges with new floors instead of having to build entire new structures.

KADDERLY: All interesting, Dean Davis - - - But since coal is so important in West Virginia, let's consider that for a few minutes.

DAVIS: All right. Professor Lawall has charge of our coal mining engineering work. Charley, you can report on that.

KADDERLY: Tell us about your teaching and research work first, Professor Lawall, will you?

LAWALL: West Virginia's course in mining is unique among mining courses in the United States because of the emphasis we place on bituminous coal mining. We also offer a course in geological, and oil and gas engineering.

Our research studies on washing and preparation of some of the coals of West Virginia have resulted in improvement of these coals so that they are now accepted in markets that once were closed to them. We have also studied the deformation of coal pillars underground, so that we can tell when sinking of the ground is likely to take place.

KADDERLY: You mean - - you can detect when the surface is likely to sink as a result of mining?

LAWALL: That's right - - and when we know that subsidence is likely to occur, it's possible to put in timbers and modify the system of mining to prevent damage to the surface, buildings and roads.

KADDERLY: I think I get the point - - but I'm afraid I'm not enough of a mining engineer to understand all the problems that may be involved. Do you do any teaching directly to miners?

LAWALL: Yes, indeed, we do. The entire State is our campus, in extension work. Our extension courses in mining, carried on all over the State have reached about 30,000 men since they were started in 1913. Our industrial extension work includes courses in welding, classes for water works operators, mine electricians and electric meter men, training in principles of coal combustion and road construction. We enroll in these classes about 3,000 men -- from 18 to 60 years old -- every year.

One of the most promising new trades is that of metal welding. To meet the demand for trained workers in this field, we organized an eight-weeks course in 1934, with ten students. This course has been conducted continuously ever since that time. Our trained welders go to manufacturers, automobile makers, and into industries of many kinds.

KADDERLY: It's evident, Professor Lawall, that the School of Mines is performing a valuable service to the State. Now---Dr. Davis, what about the work of your Engineering Experiment Station?

DAVIS: I'll ask Professor W. W. Hodge, our director, to report on that.

KADDERLY: What have you been doing, Professor Hodge?

HODGE: We have studied many of the problems involved in the mining and processing of coal, including the acid drainage from mines.

KADDERLY: Acid? Draining from mines?

HODGE: That's right. We found that something like 3 million pounds of sulphuric acid were draining from the mines into West Virginia streams <u>every day</u>.

KADDERLY: Three million pounds of sulphuric acid a day! That much? And it's powerful stuff - - must have a harmful effect on almost everything it touches.

HODGE: It does. Acid water, of course, is not suitable for drinking or cooking; fish can't live in it, and neither can other kinds of water animals and water plants.

KADDERLY: What about the effect of this acid water on metals of different kinds, Professor Hodge? Acid eats metal.

HODGE: Of course, it does - - and when this acid water comes into contact with drains, culverts, boats, barges, dams, and locks it frequently causes serious injury. Even concrete deteriorates four times as fast in acid water as it does in contact with ordinary water. This means a much higher cost of maintaining highway bridges, and culverts.

KADDERLY: Certainly, this acid draining from the mines into streams must cause a serious problem - - and a costly one. Have you found any solution for it, Professor Hodge?

HODGE: In part, yes. By cutting off the air when water comes into contact with our coal, little acid is formed. So, many abandoned mines in West Virginia have been "air sealed" - - - and today, not nearly so much sulphuric acid is draining into our streams.

KADDERLY: That's certainly focusing the services of the institution on the problems of the State. And, now, Dr. Orton, I'd like to come back to what you said about cutting timber. You have considerable to cut, I suppose?

ORTON: Professor W. C. Percival is in charge of forestry and he is here. Professor Percival, timber is your line. You'd better get in here.

PERCIVAL: I'll be glad to. You see, Mr. Kadderly, about 60 percent of the land in West Virginia is suited to no other purpose than that of growing trees.

Since our Division of Forestry was established about three years ago we have launched a program to build up our depleted forests. Most of the forest land is privately owned, and so if our program is to succeed we must have the cooperation of land owners.

KADDERLY: And how do the land owners feel about it?

PERCIVAL: Well, there is a steady increase in the appreciation of the fact that our forests can produce a valuable crop. About a year ago we organized the West Virginia Forest Products Association, in an effort to bring good management to the privately-owned forest land in our State.

KADDERLY: A Forest Products Association. Just how does this Association operate?

PERCIVAL: The land owners who belong to the association agree to manage their woodlands according to good forestry practice. The association hires an experienced woods operator as land manager, and he supervises the cutting of all timber. The forestry staff here at the University prepares specifications which provide that after the timber is cut there will be enough small trees left on the land to insure a good stand. The owner, of course, has a part in making the cutting plans and he may do the work himself or arrange with the Association to have it done - - - but in either case, the land manager supervises the work.

KADDERLY: Unique arrangement. Have you gone far enough to know how the plan will work out?

PERCIVAL: Well, as an example, one forest owner last year made a profit of $2.50 a cord on 250 cords of pulpwood taken from his woodland - - and when the cutting was finished, he had a greatly improved forest, with all the trees less than 10 inches in diameter left for the next crop, while defective trees were removed to make room for thrifty young ones.

KADDERLY: In brief, then--your plan is based on systematic cropping of the forest.

PERCIVAL: That's the idea.

KADDERLY: Quite a change from the old forest plan of "cut out and get out."

PERCIVAL: Yes--and it's one way of increasing the amount of money a great many farmers can get from their land.

KADDERLY: I'm glad to know about the forestry improvements, Professor Percival. But now, Dean Orton, what about all the grass land we mentioned a few minutes ago?

ORTON: We have a lot of potential bluegrass land. At one time it was good bluegrass, but now it's mostly poverty grass and broomsedge. But we've been finding out how to restore the better species of grass and increase the carrying capacity of our pastures. I'm going to ask Dr. G. G. Pohlman, our agronomist, to tell you about that - - - but, first, before we get away from the trees too far, let's call on Professor Kenneth Wood for a violin solo.

VIOLIN: "Melodie," by Tschaikowsky (3 minutes)

ANNOUNCER: Professor Kenneth Wood, violinist of the School of Music, has played "Melodie" by Tschaikowsky, with Virginia Chrisman McWhorter at the piano.

You are listening to the National Farm and Home Hour, coming to you today from the campus of West Virginia University at Morgantown, West Virginia.

- - -

ANNOUNCER: Continuing the Land Grant College program from West Virginia University, the Mountaineers Male Quartet sings Jerome Kerns lovely song from the production "Swing Time" - - "The Way You Look Tonight."

QUARTET: "The Way You Look Tonight" (2 min. 20 sec.)

ORTON: Thank you, boys.

Now, Dr. Pohlman, suppose you tell Mr. Kadderly about our pasture improvement work.

POHLMAN: In a survey of 775 pastures a close relationship was found between the kind of pasture sod and the acidity and available phosphorus content of the soil. These findings, along with our experimental results, lead us to believe that lime and superphosphate are the keys to our pasture problem.

KADDERLY: How about reseeding?

POHLMAN: On most pastures, seeding is not necessary. The use of lime according to soil test and the systematic use of superphosphate will bring back the bluegrass and clover. These treatments, along with good management, will result in pastures which are better in three ways.

KADDERLY: Three ways - - - if I were to venture naming them, I'd say a longer grazing season, more grass, and better quality grass.

POHLMAN: Yes, and that results in more wool, more beef, and more milk per acre, and at a lower cost of production.

ORTON: And that's another way of helping to increase the farmers' income.

Dr. Pohlman, don't you think it would be well to mention what has been done to encourage the use of high-analysis fertilizers?

POHLMAN: Indeed, I do. Based on our experimental results we are now recommending only seven high-grade mixed fertilizers, analyzing 20 percent or more total plant food. These seven with 20 percent superphosphate and the common nitrogen fertilizers meet all the requirements for commercial fertilizers in West Virginia.

KADDERLY: I assume that helps to reduce costs of fertilizers.

POHLMAN: It does - - - in two ways. Higher analysis means less bulk and weight to handle and lower transportation costs. By having fewer grades to manufacture, production costs are cut, enabling the manufacturers to reduce selling prices.

KADDERLY: Are the manufacturers cooperating with you in reducing the number of grades?

POHLMAN: They agree heartily with the plan.

ORTON: Don't forget the work done by Dr. Pierre.

POHLMAN: Oh yes; five years ago Dr. Pierre worked out a method for determining the effect of nitrogen-carrying mixed fertilizers on soil acidity. As a result many fertilizer companies are now using ground limestone instead of sand as filler. This is highly desirable, especially where limestone is not plentiful.

KADDERLY: Well, Dr. Pohlman, this work has helped the farmers solve their fertility problems.

We have talked about grass and pastures. What about other forage crops?

POHLMAN: One of our big problems is to supply roughage for the winter months. As a result of experimental and extension work, many farmers are now growing alfalfa, which produces more than twice as much feed as the average timothy crop. In addition, a new variety of soybeans has been developed. It's known as Kingwa. Kingwa has superior quality as a hay crop, because it holds its leaves when cut and cured.

KADDERLY: Dr. Orton, you mentioned livestock as an important part of the agriculture of the State. Shall we pass on to that now?

ORTON: All right - - - but hold your questions for a few minutes while Bernard R. McGregor sings "Border Ballad" by Cowen.

VOCAL SOLO: "Border Ballad" (2 minutes)

ORTON: Thank you, Mr. McGregor.

Now, Dr. E. A. Livesay, head of our animal husbandry department, will sum up the high points in our animal husbandry work.

LIVESAY: Through experimental work we have demonstrated the desirability of finishing steers for market at a younger age by the utilization of pasture plus grain - - - we have shown that both yearling and two-year-old steers can be finished satisfactorily on pasture supplemented with a light grain ration - - - as a result three and four-year-old steers are passing from the picture.

Farmers once had the idea that steers wintered on a ration containing considerable corn silage would not make satisfactory summer gains on pasture, but years ago we proved that steers wintered entirely on corn silage made just as large summer gains as those wintered wholly or in part on dry roughages.

KADDERLY: What about sheep? This State must be well adapted to them.

LIVESAY: Yes, it is, but in spite of that, fifteen years ago lambs from West Virginia were discriminated against on the markets.

KADDERLY: And now?

LIVESAY: As a result of our Extension sheep improvement program, which includes marketing cooperatively on a graded basis, our lambs often top the market.

KADDERLY: What about wool?

LIVESAY: Well, I should say cooperative marketing has been the greatest incentive for improving the quality. West Virginia wool is given special consideration by large mill buyers. This year 5,000 sheepmen of the State are marketing their wool cooperatively and the State pool containing more than 700,000 pounds brought between 24 and 25 cents per pound for the clear medium grade. That grade includes about 90 percent of the pool.

KADDERLY: You said that wool sold for better than 24¢ a pound. That's somewhat better than market quotations. Why the premium?

LIVESAY: Because West Virginia produces an especially light-shrinking wool, and sheepmen have learned to handle it properly. Through tests over a period of three years we found that our wool averaged about 37 percent shrink as compared to about 47 percent for the same grade of wool as quoted on the Eastern market. This is a valuable sales point.

ORTON: We haven't said anything about horticulture. In the absence of Professor H. S. Marsh, head of our department of horticulture, Dr. K. C. Westover, associate horticulturalist, will give us a picture of that situation.

WESTOVER: Apples are one of our leading crops, and West Virginia ranks eighth among all States of the Union in apple production. Berkeley county is the fourth largest apple-producing county in the nation. Apples were shipped from our northern panhandle by flat boat to New Orleans as early as 1804.

KADDERLY: What are some significant ways in which your department is helping fruit growers, Dr. Westover?

WESTOVER: Just now we are engaged in one of the most comprehensive studies of root stalks ever undertaken in this country.

KADDERLY: What are you aiming at?

WESTOVER: To reduce the cost of production so the growers can sell apples to consumers for less money and still have a fair return for their work.

KADDERLY: How do root stalks fit into that picture?

WESTOVER: We hope to find roots superior to those now in commercial use -- roots that will bring the trees into bearing earlier; that are resistant to disease and winter injury; that are better adapted to our soil and climatic conditions; that will produce more uniform trees -- trees that will live and produce longer.

ORTON: Mr. Kadderly, have you ever tasted blueberries?

KADDERLY: Never - - - but I'm looking forward to that experience. I've heard people say they are superior to huckleberries - - - and if that's true - - - well, to me there's nothing finer than huckleberry pie - - - huckleberries from the high slopes of the Cascade Mountains in Oregon and Washington.

ORTON: I haven't tasted those huckleberries - - - but we have a native lowbush blueberry here in West Virginia--several species and strains, in fact - - - that make pies hard to beat - - - and there's a real market demand for them, too.

KADDERLY: How large are these blueberries?

ORTON: What would you say, Dr. Westover?

WESTOVER: Oh, about the size of small garden peas on the average - - - but sometimes we find bushes with berries three or four times that large. And that brings up another project we're just starting to work on.

KADDERLY: Better blueberry pie?

WESTOVER: Not that so much. Our aim is more money from the crop. Blueberries grow naturally in nearly all parts of the State - - - often on old abandoned fields or land that can't be cropped. These berries are an important source of supplementary income to many farmers. Frequently as much as $500 is realized from no more than an acre of bushes. And that amount could be increased several times if all bushes were of the superior types yielding large berries as abundantly as some plants do. At present little has been done in developing and propagating lowbush blueberries. These bushes are slow growing and expensive. We hope to work out ways of propagating the better species that will be speedier and less expensive, so that poorer varieties can be replaced with better ones.

KADDERLY: Success to you - - and better blueberry pie (if that's possible!) I want to make a note to come back to West Virginia later in the summer and "fill up" on blueberries.

ORTON: I hope you will - - - but before we overlook it, let's call on Dr. Frank Cuthbert to "fill in" with a song he likes to sing - - - "At Tankerton Inn," by Fisher.

KADDERLY: And we'd like to hear it.

VOCAL SOLO: "At Tankerton Inn" (2 minutes)

ORTON: Thank you, Dr. Cuthbert.

Mr. Kadderly, you have heard of the Hessian fly, I presume?

KADDERLY: That one-time scourage of the wheat crop? Yes, indeed.

ORTON: Those words "one-time" are well chosen. We know how to combat the Hessian fly now - - -

KADDERLY: By holding back on seeding until danger of fly infestation is past?

ORTON: That's right - - - and Dr. Hopkins here, our guest of honor today, is the man who worked out a practical application of that control method.

KADDERLY: He did?

ORTON: Yes, and I'd like for him to tell us about it. Before he does that I want to tell you something about Dr. Hopkins. He was the first entomologist of the West Virginia Agricultural Experiment Station, and later vice-director of the Station. His work with our Experiment Station was so outstanding that he was called to Washington and placed in charge of the Division of Forest Insects in the Bureau of Entomology, and was the first entomologist sent to Europe to introduce predatory insects - - - to combat bark beetles that were destroying the pine and spruce on the Alleghanies. Dr. Hopkins has the distinction of being known as the father of Forest Entomology in America. He is still actively engaged in research at 81 years of age - - - on his farm in Wood county.

Now, Dr. Hopkins, tell us about your pioneer work, leading to a workable and effective application of the method used in controlling the Hessian fly.

HOPKINS: Dr. Orton, I inherited the pioneer urge. Investigations, 1895 to 97, of the depradation by the Hessian fly on winter wheat led to the discovery of a law of variation in the dates of seasonal events in plants and animals and farm practice with relation to variation in degrees of latitude and feet in altitude. By means of this law, maps and charts were prepared and published in 1900 for the State and in 1918 for the nation, by which a wheat grower in any county of the State or country could quickly find the average fly-free seeding date for his farm.

KADDERLY: That discovery was indeed a milestone in the history of agriculture in this country. It has saved the farmers of America hundreds of millions of dollars.

HOPKINS: Yes, perhaps it has. But it led to something even more important - - - though not yet generally recognized. Continuation of this line of pioneer work led to other discoveries and to the conception and development of a new science called Bioclimatics. This science deals with broad basic law, principles, systems, and methods of application for the use and guidance of specialists in agricultural research and practice. It has been demonstrated that by means of maps, charts, and tables, and meteorological records

the bioclimatic elements of any local area in this or any other country can be quickly analyzed and predictions made as to its climatic, seasonal, weather and other features, and the types of farming and farm practice likely to be best adapted to it.

This work was started here at the Agricultural Experiment Station in 1895, and a large part of its development during the past forty years has been within the local region represented by Parkersburg, West Virginia, and Marietta, Ohio, with the center of activities at Kanawha Farms, Wood county, which is officially designated as the Intercontinental Base Station for Bioclimatic Research. Here's a publication just issued in January of this year by the Department of Agriculture, which gives a fairly complete report of my work, Mr. Kadderly.

KADDERLY: Bioclimatics--A Science of Life and Climatic Relations - - - 188 pages 9 by 12 inches - - - that is a real report. Thank you, Dr. Hopkins. I'll take it along to read later. And now, Dr. Orton, since I'll have to be going in a few minutes, let's turn to your Extension program. I know that it is noted for life-enrichment activities.

ORTON: All right. Director J. O. Knapp is in charge of our agricultural extension program. He can tell you what we've been doing along that line.

KADDERLY: What about your plan of community scoring? I know that work has commanded national attention.

KNAPP: That was started a good many years ago by Dr. Nat T. Frame when he was Director of Extension; in fact, he worked out most of the score cards. We are honored to have Dr. Frame with us today. He is now director of Oglebay Institute at Wheeling. The Extension Service is cooperating with Oglebay Institute. Dr. Frame, would you care to make a statement about community scoring.

FRAME: West Virginia's community scoring plan sets up ideals or standards for a well-rounded community life. By means of the score cards the people themselves are enabled to discover the weak and strong points about their community, and plan as an organized community to improve their situation. In other words, the community score card is a teaching device for helping the people to lift themselves by their own bootstraps.

KADDERLY: Director Knapp -- what are the results -- can you measure -- this community score card program.

KNAPP: Many communities have gone through a scoring process annually for from 10 to 15 years. Each year they have planned a program of improvement -- but they haven't stopped with planning -- by community effort they have accomplished things. More than 150 communities in the State now have definitely organized community councils that direct their group activities.

KADDERLY: You've done some pioneer work in leadership training, too, I believe.

KNAPP: Yes, and that ties in closely with our 4-H club program. West Virginia held the first 4-H camp that was ever held - - - that was in Randolph county in 1914.

KADDERLY: What about your State 4-H camp development at Jackson's Mill, which we hear about so often?

KNAPP: Our State 4-H Camp is an outgrowth of those early county camps. It is a pioneer development in the establishment of a permanent institution to serve not only the 4-H clubs but the entire rural people of the State as a leadership training school. It now includes 12 county dormitory buildings, an assembly hall, dining hall with a seating capacity of 500, more than 500 acres of land, and other buildings and equipment valued at a quarter of a million dollars.

KADDERLY: That's quite an investment. Has the use you can make of the camp justified such an expenditure?

KNAPP: Yes, it has. The camp is in constant use from early spring until late fall for conferences and meetings varying in an attendance from 200 to 500 people each, and some activities, such as mine safety day, have drawn as many as 20,000 people. The Country Life Jubilee held in the fall as a round-up of the best in rural life reaches upward of 15,000 people each year.

KADDERLY: Can you give in brief an idea of the relationship between the Extension Service and Oglebay Institute, you mentioned?

KNAPP: I'll let Dr. Frame, director of the Institute, answer that.

FRAME: The Extension Service and Oglebay Institute cooperate in a program in adult education and recreation, covering ten counties on both sides of the Ohio River, using Wheeling's Oglebay Park as a campus. The Extension Service provides specialists in forestry, nature appreciation, and rural recreation. The Institute staff includes specialists in community music, arts and crafts, recreation, and camping. Extension, Institute, and Parks Commission, all work together as parts in the Oglebay program.

KADDERLY: A distinctive and pioneering work. And what about your Extension work with farm women, Director Knapp?

KNAPP: Miss Gertrude Humphreys, our State home demonstration agent is here. Gertrude, will you answer Mr. Kadderly's question?

HUMPHREYS: It is rather difficult to single out any phase of farm women's work as more important than the rest. However, it is significant that our 361 farm women's clubs are so vitally interested in discussing home and community problems. Many of these clubs for six years now have been using a special series of lessons for their monthly discussions.

KADDERLY: What have these lessons covered?

HUMPHREYS: They have dealt with such topics as "Our Community Tomorrow," "Returns From Our Taxes," "Are We Good Buyers?", "The Farm Home and National Affairs," and "Family Team Work."

KADDERLY: Are those discussions leading to definite action in home and community improvement, Miss Humphreys?

HUMPHREYS: Yes, Mr. Kadderly, they are. Largely as an outgrowth of these discussions in club meetings, farm women who are leaders in county and community groups hold a State-wide meeting each spring. They bring together facts about conditions affecting rural homes and communities; they study county and State problems; and out of this study they develop a program of work for the following year. I wish I had time to tell you how these programs are definitely put into action. They are making a real imprint on rural community life.

KADDERLY: I'm sure of that -- and I, too, wish we could talk longer about this particular work. In fact there are many things I should like to ask about agricultural extension work in West Virginia -- especially the Oglebay Park and Jackson's Mill set-ups - - - but I'll have to go now. Dr. Orton, we should have a final word from you.

ORTON: Just a thought as to the future. Many lines of work have been mentioned here - - - all exceedingly important - - - all designed to assist in solving problems confronting our State. But I am convinced that our most important problem is the conservation of our primary resources--water and minerals. We must hold the drop of water where it falls, and if we hold the water, we will conserve the minerals necessary for plant food. - - - If we have another opportunity to give you a report on our work a few years hence, we hope that we shall be able to show real progress in that direction.

KADDERLY: You have a challenging problem there, and I wish you success in meeting it.

Dr. Orton, it has been a pleasure to meet you here - - - and all of your co-workers whose reports have so graphically portrayed some of the problems and the help given the people of your State by this Land-Grant institution. I've enjoyed every minute. Thanks for arranging this gathering - - - and to Director Cuthbert and other faculty members in the School of Music -- a special appreciation for the fine entertainment they provided.

Thank you for the opportunity to meet with all of you.

NBC ANNOUNCER: And now the scene shifts from the campus of West Virginia University - - - as the Homesteaders conclude this Land-Grant College program.

We return you now to Chicago.

NBC ANNOUNCER: (Chicago) As a final salute to West Virginia University which is carrying on so well in meeting the problems of the people of the State, the Homesteaders play "Fight, Fight, Mountaineers," and _____

HOMESTEADERS: "Fight, Fight, Mountaineers." (30 seconds) and _____ (2½ minutes)

NBC ANNOUNCER: (Chicago) And so we bring to a close another of the Land Grant College programs which are given on the third Wednesday of each month as a feature of the National Farm and Home Hour, and presented by the National Broadcasting Company in cooperation with the Association of Land Grant Colleges and Universities and the United States Department of Agriculture.

This is the National Broadcasting Company.

(CHIMES)

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